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09/800,151

03/05/2001

Hiroyuki Suzuki

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10/31/2005

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EXAMINER

NGUYEN, BRIAN D

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/800,151

Applicant(s)

SUZUKI, HIROYUKI

Examiner

Brian D. Nguyen

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2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on the amendment filed on 8/16/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3,8-11,13,16-18,20,21,29 and 31 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,14,15,22 and 24 is/are rejected.
- 7) ☒ Claim(s) 12,19,23,25-28 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 7, 12, 19, 22-25, and 27 are objected to because of the following informalities:

Claim 7, line 3, "said failure detecting sections" seems to refer back to "failure detecting section" in line 4 of claim 6. If this is true, it is suggested to change "said failure detecting sections" to --said failure detecting section--.

Claim 12, line 2, it is suggested to change "a preceding transmission sections" to either --a preceding transmission section-- or --preceding transmission sections--.

Claim 19, line 2, it is suggested to delete "said" before "the identifier".

Claim 22, line 2, "said communication controlling sections" seems to refer back to "communication controlling section" in line 6 of claim 6. If this is true, it is suggested to change "said communication controlling sections" to --said communication controlling section--.

Claim 23, line 2, "said communication controlling sections" seems to refer back to "communication controlling section" in line 10 of claim 8. If this is true, it is suggested to change "said communication controlling sections" to --said communication controlling section--.

Claim 24, line 2, "said communication controlling sections" seems to refer back to "communication controlling section" in line 6 of claim 14. If this is true, it is suggested to change "said communication controlling sections" to --said communication controlling section--.

Claim 25, line 2, "said communication controlling sections" seems to refer back to "communication controlling section" in line 10 of claim 16. If this is true, it is suggested to change "said communication controlling sections" to --said communication controlling section--.

Claim 27, line 2, it is suggested to change "a preceding transmission sections" to either -- a preceding transmission section-- or --preceding transmission sections--.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 recites the limitation "said combination" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Semaan (6,850,483).

Regarding claims 1 and 4, Semaan discloses a line restoring method comprising the steps of: monitoring each occurrence of a failure preventing transmission to each of succeeding transmission sections of a plurality of redundantly configured transmission paths (11, 12 of

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figure 1); relaying a packet as a connectionless service from a preceding transmission section of a specific transmission path, of the plurality of transmission paths, to its succeeding transmission section while a failure in the specific transmission path continues to exist by using one of the plurality of transmission paths other than the specific transmission path (see working path and protection path in figure 1 and col. 2, lines 26-55). Semaan discloses the use of quality of service (QOS) information but does not specifically disclose recognizing an attribute of a packet and relaying the packet when the recognized attribute indicates that the packet is a subject of a best effort service. However, it is well known that different packets have different priorities and best effort service is a lowest priority. It is also well known that best effort service is referred to as a default quality of service. Because different packets have different priority levels, a switch or a router must be able to recognize the attribute of a packet to route the packet through the network based on the service contract. When a failure is detected, all the packets will be rerouted and how the packets are rerouted is based on their priorities. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to relay a best effort service data packet from a failed working path to a protection path in order to avoid the disruption of the communication.

Regarding claims 2 and 5, Semaan discloses a line restoring method comprising the steps of: forming in advance active paths and reserve paths capable of substituting the active paths in each of a plurality of redundantly configured transmission paths; monitoring each occurrence of a failure preventing transmission to a succeeding transmission section of the active paths; relaying a packet from a preceding transmission section of a specific active path, of the active paths, to its succeeding transmission section while a failure in the specific active path continues

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to exist by using one of the reserve paths capable of substituting the specific active path (see figure 1 and col. 2, lines 26-55). Semaan does not specifically disclose recognizing an attribute of a packet and relaying the packet when the recognized attribute indicates that the packet is a subject of either a control-loaded service or a guaranteed service. However, it is well known that different packets have different priorities and best effort service is a lowest priority. It is also well known that best effort service is referred to as a default quality of service. Because different packets have different priority levels, a switch or a router must be able to recognize the attribute of a packet to route the packet through the network based on the service contract. When a failure is detected, all the packets will be rerouted and how the packets are rerouted is based on their priorities. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to relay a best effort service data packet from a failed working path to a protection path in order to avoid the disruption of the communication.

6. Claims 6-7, 14-15, 22, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Semaan (6,850,483) in view of Shew et al (6,530,032).

Regarding claim 6, Semaan discloses a packet transmission equipment comprising: a plurality of interfacing section for interfacing the packet transmission equipment with each of redundantly configured simplex transmission paths in a physical layer; failure detecting section for detecting in the physical layer, a failure in each of preceding transmission sections of the transmission paths; and communication controlling section for terminating the transmission paths via the plurality of interfacing section and transmitting an alarm packet (the protection frame in the abstract) indicating a failure detected by the failure detecting section to all or part of succeeding transmission sections of the transmission paths (see figure 1; col. 1, lines 42-63; col.

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2, lines 26-55). Semaan does not specifically disclose the network is a label-switching network. However, detecting fault in a label switching network is well known in the art. Shew discloses detecting fault in a label-switching network (see abstract). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply fault detection to a label switching network as taught by Shew in the system of Semaan in order to detect faults in label switching network.

Regarding claim 7, Semaan discloses identifier of a transmission path where a failure has been detected (see location of failure in the abstract).

Regarding claim 22, Semaan discloses the communication controlling section relays an alarm packet received from preceding transmission sections of the transmission paths, to all or part of succeeding transmission sections of the transmission paths (see the protection frame is transmitted to other nodes in the abstract).

Regarding claims 14, 15, and 24, claims 14, 15, and 24 have substantially the same limitations as claims 6, 7, and 22. Therefore, they are subject to the same rejection. Note that Semaan teaches both the location of the failure and the type of the failure.

***Allowable Subject Matter***

7. Claims 3, 8-11, 13, 16-18, 20-21, 29, and 31 are allowed.

8. Claims 12, 19, 23, 25-28, and 30 would be allowable if rewritten or amended to overcome the objection(s) and/or rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

***Response to Arguments***

9. Applicant's arguments filed 8/16/05 have been fully considered but they are not persuasive. The applicant argued that in stark contrast, applicant's independent claims 1 and 2 teach the limitation of a connectionless communication path, substituting a transmission section, being secured in a logical layer when a failure occurs in a transmission section (see limitation of claim 1 and 2: "recognizing an attribute of a packet to be relayed as a connectionless service for a preceding transmission section of a specific transmission path ... to its succeeding transmission section while a failure in the specific transmission path continues to exit". This argument is irrelevant because *recognizing an attribute* can not be interpreted as *substituting a transmission section, being secured in a logical layer when a failure occurs in a transmission section*.

Semaan's system uses of QoS information as described in col. 2, lines 42-55. QoS information of an packet is the attribute of the packet. Because Semaan's system uses of QoS information, the system must be able to recognize the attribute of the packet. See col. 1, lines 17-20 where the term "packet" is mentioned. Semaan's system uses connectionless service because the packet is routed using packet header information. In claim 4, the applicant claims opposite transmission directions. This feature is clearly shown in figure 1 of Semann. The applicant also argued that the protection frame of Semann is not transmitted to other nodes via a transport label layer and, furthermore, the protection frame of the Semann reference fails to indicate the interfacing section where the failure has been occurred. This argument is irrelevant because claims 6, 7, 22 and 24 do not claim the alarm packet is transmitted to other nodes via a transport label layer or the alarm packet indicate the interfacing section where the failure has been occurred. Claims 14 and 15 claim the alarm packet indicating the interfacing section where the failure has been occurred.



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This limitation is clearly taught by Semann. For example, in the abstract, Semann teaches that the protection frame comprises a type of failure and a location of failure. “the interfacing section where the failure has been occurred” is equivalent to the location of failure. In the claims, the applicant mentions a transport label layer. Semann does not specifically disclose a transport label layer. However, applying network protection to a label switching network or any type of networks is well known and is a matter of choice. Shew discloses providing network protection for a label switching network. Therefore, the combination of Semann and Shew is sufficient to render the claim obvious under 103. The applicant further requests the examiner to show the limitations of applicant’s “alarm packet” in the combination of the Semann and Shew references. As mentioned above, “the alarm packet” is “the protection frame”, mentioned in Semann’s abstract, comprises a type of failure and a location of failure. Semann also discloses packets are used in IP and Frame Relay in col. 1, lines 17-20.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Putzolu (6,584,509) teaches best effort service is referred to a default quality of service that a conventional communication network offers.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

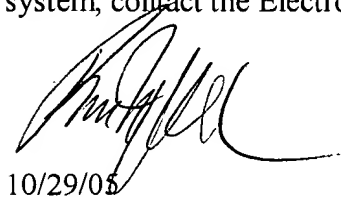
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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian D. Nguyen whose telephone number is (571) 272-3084. The examiner can normally be reached on 7:30-6:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



10/29/05

**BRIAN NGUYEN**  
**PRIMARY EXAMINER**